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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/576,656	05/22/2000	Pierre Zakarauskas	11336/622	3288

7590 12/09/2005

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EXAMINER	
LAO, LUN S	
ART UNIT	PAPER NUMBER

2644

DATE MAILED: 12/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/576,656	ZAKARAUSKAS ET AL.	
	Examiner	Art Unit	
	Lun-See Lao	2644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,8,10 and 14-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 19-26 is/are allowed.
- 6) ☒ Claim(s) 1,2,4,8,10 and 14-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Introduction

1. This is response to the amendment filed 09-19-2005. Claims 1-2, 8, 10 and 14-18 have been amended and claims 3, 5-7, 9, 11-13 have been canceled and claims 19-26 have been added. Claims 1-26 are pending.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 2, 4 and 14-15 rejected under 35 U.S.C. 103(a) as being unpatentable over Haranishi (US PAT. 5,764,779) in view of Yoon. (US PAT. 6,201,537).

Consider claim 14, Haranishi teaches an apparatus comprising a computer-readable storage medium having executable instructions that enable the computer to (see figs.6-7 and col.12 line 42-col.13 line 30):

determine information about an on/off (see fig.2) state of a microphone (see fig.1, (1-2)) by comparing an acoustic signal obtained from the microphone to a threshold value to determine whether the microphone is on or whether the microphone is off; and continuously provide feedback based on said information, the feedback comprising whether the microphone is on or off (see figs. 1-2 and col. 6 line 54-col. 9 line 37); but

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Haranishi does not clearly teach a report for a user display which indicates whether the microphone is on or off.

However, Yoon teaches that a report for a user display which indicates whether the microphone is on or off (see figs. 5 and 7 and col. 4 line 46-col. 5 line 25).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Yoon into Haranishi to provide a multiplexer controls lighting of a light emitting diode and control switching of a microphone.

Consider claim 2, there is the method claim corresponding to apparatus claim 14. See previous apparatus claim 14 rejection.

Consider claim 15, Haranishi teaches performing detection of signal clipping (see fig.1 (4) and see col. 6 line 54-col. 7 line 60).

Consider claim 4, there is the method claim corresponding to apparatus claim 15. See previous apparatus claim 15 rejection.

4. Claims 10 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haranishi (US PAT. 5,764,779) as modified by Yoon (US PAT. 6,201,537) as applied to claims 2 and 14 above, and further in view of Anderson (US PAT. 5,714,997).

Consider claim 16, Haranish teaches the apparatus of the computer-readable storage medium further comprises executable instructions that enable the computer (see figs.6-7 and col.12 line 42-col.13 line 30) to:

Compare a threshold value to determine the on/off state of said microphone further comprises executable instructions that enable the computer to compare said value to a

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threshold value to determine the on/off state of said microphone (see figs. 1-2 and col. 6 line 54-col. 9 line 37); but Haranishi does not teach to calculate the RMS value of said signal; and compare said RMS value to a threshold value.

However, Anderson teaches to calculate the RMS value of said signal; and compare said RMS value to a threshold value to determine the sound to be arriving at a microphone (see col.30 lines 33-50).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Anderson into the teaching of Haranishi and Yoon to provide processing the received audio signals to estimate, for individual periods of time, spatial points from which individual ones of the sounds emanate, and audio signals of the individual ones of the sound; and generating the encoded data to include the spatial points and the audio signal.

Consider claim 10, this is the method claim corresponding to apparatus claim 16. See claim 16 for rejection.

5. Claims 1, 8 and 18 rejected under 35 U.S.C. 103(a) as being unpatentable over Haranishi (US PAT. 5,764,779) in view of Yoon. (US PAT. 6,201,537) and Aoki (US PAT. 6,130,949).

Consider claim 1, Haranishi teaches that an acoustic signal monitoring system, comprising:

a time series analyzer configured to determine and provide a continuous

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feedback through a user display report about an on/off state of a microphone (see fig.1, (1-2)) to a user including comparing an acoustic signal obtained from the microphone to a threshold value to determine whether the microphone is on or whether the microphone is off, said analyzer also enabling gain adjustment to prevent signal clipping or amplifier overloading (see figs 1-2 and col. 6 line 54-col. 9 line 37); but Haranishi does not clearly teach that a user display reports about an on/off state of a microphone and a parameter adjustment element operating to calculate frequency domain parameters of the acoustic signal obtained from the microphone, said frequency domain parameters providing information about placement of the microphone with respect to an audio source, where said information enables the user to take appropriate actions to enhance operation of an audio system.

However, Yoon teaches that a user display reports about an on/off state of a microphone (see figs. 5 and 7 and col. 4 line 46-col. 5 line 25).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Yoon into Haranishi to provide a multiplexer controls lighting of a light emitting diode and control switching of a microphone.

On the other hand, Aoki teaches that a parameter adjustment element (see fig.1) operating to calculate frequency domain parameters of the acoustic signal obtained from the microphone (see fig.1, (1-2)), said frequency domain parameters providing information about placement of the microphone with respect to an audio source, where said information enables the user to take appropriate actions to enhance operation of an

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audio system (see figs. 1 and 19-20 and col. 5 line 49-col. 6 line 67 and col. 23 line 14-col. 24 line 67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Yoon into Haranishi to provide a an apparatus for the separation of a sound source with a high accuracy and with a reduced level of noise, and a program recorded medium therefore.

Consider claim 8 Aoki teaches the acoustic signal monitoring system of further comprising:

a frequency transform unit (see fig.1, 4) configured to transform incoming acoustic signal into frequency domain for calculation in said parameter adjustment element (see col. 6 lines 49-col.7 line 67).

Consider claim 18, Aoki teaches that the acoustic signal monitoring system of the frequency domain (see fig.1, 4) parameters is a frequency domain signal to noise ratio (see col.6 line 49 –col.7 line 67 and col.30 line 40-col. 31 line 29).

6. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haranishi (US PAT. 5,764,779) as modified by Yoon (US PAT. 6,201,537) and Aoki (US PAT. 6,130,949) as applied to claim 1 above, and further in view of Anderson (US PAT. 5,714,997).

Consider claim 17, Haranish teaches the acoustic signal monitoring system of said time series analyzer configured to determine said on/off (see figs (1-2))

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state of a microphone by comparing signal from said microphone to a threshold value (see figs. 1-2 and col. 6 line 54-col. 9 line 37); but Haranishi does not teach to compare a RMS value to of the acoustic signal from said microphone to the threshold value.

However, Anderson teaches to calculate the RMS value of said signal; and compare said RMS value to a threshold value to determine the sound to be arriving at a microphone (see col.30 lines 33-50).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Anderson into the teaching of Haranishi and Yoon, Aoki to provide processing the received audio signals to estimate, for individual periods of time, spatial points from which individual ones of the sounds emanate, and audio signals of the individual ones of the sound; and generating the encoded data to include the spatial points and the audio signal.

Allowable Subject Matter

7. Claims 19-26 are allowed.

Response to Arguments

8. Applicant's arguments with respect to claims 1-26 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Heline (US PAT. 5,400,406) is recited to show other related the acoustic signal enhancement system.

11. Any response to this action should be mailed to:

Mail Stop ____ (explanation, e.g., Amendment or After-final, etc.)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Facsimile responses should be faxed to:
(571) 273-8300

Hand-delivered responses should be brought to:
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lao,Lun-See whose telephone number is (571) 272-7501. The examiner

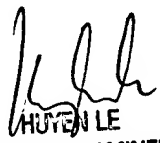
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can normally be reached on Monday-Friday from 8:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian, can be reached on (571) 272-7848.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 whose telephone number is (571) 272-2600.

Lao, Lun-See
Patent Examiner
US Patent and Trademark Office
Knox
571-272-7501
Date 12-1-2005 *L.S.*


HUYEN LE
PRIMARY EXAMINER